May 4 - May 10, 2001

The Terra spacecraft is in nominal mode. All instruments are in Science Mode with the exception of MOPITT, which has been transitioned from Safe Mode to Standby.

The MISR instrument was commanded to turn off by the Terra spacecraft on-board Telemetry Monitor (TMON) at 00:01:07z on Day 125 (8:01:07 PM on May 4, 2001). The anomaly resulted from an incorrect operation involving excessive goniometer movement while in the Global Mode for science data acquisition. As a result, the MISR computer overloaded and began issuing bad data packets. This was sensed by the instrument and by the onboard TMON, which activated a Relative Time Command Sequence to turn off the instrument and turn on survival heaters.

The anomaly was diagnosed quickly and steps were taken early this week to bring the instrument back on line. A full load of the launch baseline flight software was uplinked subsequent to a set of diagnostic activities including goniometer positioning and mode setting. MISR was fully restored to normal science operations at 20:00z on DOY 130 (Thursday, May 10). In the future, the MISR instrument team will simulate goniometer operations on their engineering unit at JPL prior to on-orbit execution.

At 04:18:42 on Day 127 (12:18:42 AM on Monday May 7, 2001) the MOPITT instrument on the Terra spacecraft was commanded to Safe Mode. The Terra Flight Operations Team (FOT) performed this operation via an existing configured procedure as part of the documented standard response to a MOPITT Red Limit condition that occurred as a result of the MOPITT Displacement Side B position increasing instantaneously from 3mm to 4mm. This occurred during a real-time contact on Day 127 at 04:07:16z.

At the request of the MOPITT Instrument Operations Team, the Terra Flight Operations Team successfully dumped the Instrument Control Module memory on Wednesday, May 9. A Command Authorization Meeting (CAM) was conducted on DOY 131 (Friday May 11) as part of the preparation to perform a Power Reset on the instrument in the sequence of SAFE - SURVIVAL - BOOT - SAFE - STANDBY. As part of the agreed to diagnostic process, the MOPITT was successfully placed in STANDBY mode during the 14:36z TDRSS contact on DOY 131 (May 11). This mode provides more telemetry information from the instrument while leaving the cooler system off.

MOPITT will continue to analyze the anomaly and consult with vendors and the Canadian Space Agency. Additional diagnostic activities are expected early next week. Temperatures are being carefully monitored. The instrument is safe at this time.

A successful ground contact was executed on DOY 124, replaying 8335 EDU blocks of MODIS data via X-band to the Norway station.

A Solar Array Offset Adjustment was executed on DOY 127, positive 5 degrees at both 22:00:38 and 22:03:28.

PLANS:

The MOVE Campaign has been postponed since the MOPITT instrument is currently in

Standby mode.
Uplink of new MISR Flight Software load is scheduled for May 22.
